

WHAT IS CLAIMED IS:

1. A computer system for a client network address translation (NAT) pool, said computer system comprising:

a memory pool;

5 a control block, said control block constructed and arranged to contain at least one parameter, said control block containing an address for said memory pool;

a pool header for said memory pool, said pool header having a pointer; and

10 at least one subpool header, said subpool header being pointed to by said pointer of said memory pool, said at least one subpool header having a pointer to a subsequent subpool header, said subpool header further having subpool memory of fixed block storage having at
15 least one fixed block that corresponds to a connection block used for server load balancing and are populated with client NAT addresses;

wherein an individual said connection block may be either free or allocated, but said client NAT addresses
20 remain allocated in said subpool memory until all of said subpool memory is freed.

2. A system as in Claim 1, wherein said control block has pool name property.

25

3. A system as in Claim 1, wherein said control block has a first IP address property.

4. A system as in Claim 1, wherein said control
30 block has a last IP address property.

09704523 02001
"08020" 22578250

5. A system as in Claim 1, wherein said control block has a net mask property.

5 6. A system as in Claim 1, wherein said control block has a memory pool address property.

7. A system as in Claim 1, wherein said control block has an initial number of connection blocks
10 property.

8. A system as in Claim 1, wherein said control block has a maximum number of connection blocks property.

15 9. A system as in Claim 1, wherein said control block has an interval list address.

10. A system as in Claim 9, wherein said interval list address has at least one interval list element.
20

11. A system as in Claim 10, wherein said interval list element has a pointer to a next interval list element.

25 12. A system as in Claim 10, wherein said interval list element has a pointer to a previous interval list element.

05781522-020801

13. A system as in Claim 10, wherein said interval list element has a pointer to the allocated subpool for said interval list element.

5 14. A system as in Claim 10, wherein said interval list element has an IP address of a first client NAT address in said interval list element.

10 15. A system as in Claim 10, wherein said interval list element has a port number of a first client NAT address in said interval list element.

15 16. A system as in Claim 10, wherein said interval list element has an IP address of a last client NAT address in said interval list element.

20 17. A system as in Claim 10, wherein said interval list element has a port number of a last client NAT address in said interval list element.

18. A system as in Claim 10, wherein said interval list element has count of the number of client NAT addresses in said interval list element.

09781522 020804

19. A method of allocating memory for a client network address translation (NAT) pool, said method comprising the steps of:

5 creating an internal control block that represents
said client NAT address range;

 creating a main pool header;

10 allocating at least one subpool header having a
subpool memory block containing one or more fixed-length
connection blocks that are allocated within said subpool
memory block, said connection blocks containing client
NAT addresses, said subpool header being referenced by
said main pool header;

15 wherein said client NAT address ranges remains
allocated within said subpool memory until the entire
subpool is freed.

09781522-020801

20. A memory allocation system for a computer, said system comprising:

a memory pool;

a control block, said control block constructed and
5 arranged to contain at least two parameters; one of said parameters for said control block being an address for said memory pool;

means for accepting user input parameters, said input parameters being contained in said control block;

10 and

means for creating a client network address translation subpool within said memory pool, said means for creating said client NAT subpool including means for allocating client NAT address range, means for allocating
15 addresses within said client NAT address range, means for freeing said addresses in said client NAT address range, and means for deallocating said client NAT address range;

wherein said client NAT address range remains allocated within said subpool until all of said addresses
20 within said client NAT address range have been freed.

05781522-00001